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ABSTRACT

Intended to be used in conjunction with the Portland State University handbook entitled "Safety Guidelines and Emergency Procedures," this manual provides guidelines to be followed in the event of library emergencies involving fire, flood, fumes, smoke, and water leakage, with special attention given to the processes required for the salvage of library materials which have been damaged by water. A checklist of emergency procedures covers the location and description of emergencies, reporting of emergencies, building evacuation, the proper use of fire alarms and extinguishers, fire prevention, and steps for dealing with flooding, water leaks, fumes, and smoke. Three plans for disaster recovery from water damage are then outlined, covering the freezing of up to 15, up to 50, and more than 50 shelves of books. Extensive appendices present lists of salvage team members, library staff volunteers (this list is not complete), and local and off-site conservation and restoration specialists; listings of sources of supplies, equipment, and services; information on freezing priorities, the handling and packing of wet or damp material for freezing, and the handling of special materials, including archival storage boxes, separate sheets and leaves, photographic materials, and audiovisual materials; and building maps showing the location of fire alarm boxes, hoses, and portable extinguishers. (ESR)

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DISASTER PREPAREDNESS AND RECOVERY

Prepared by

Theodore C. W. Grams

IR 027 669

Portland State University Library
Portland, Oregon
1983

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PREFACE

The purpose of this manual is to provide guidelines to be followed in the event of library emergencies involving fire, flood, fumes, smoke, and water leakage. It is to be used in conjunction with the University's handbook entitled: Safety Guidelines & Emergency Procedures. Special attention is given to the processes required for the salvage of library materials which have been damaged by water.

The procedure of choice for the salvage of water-damaged materials by libraries with large collections provides for the completion of all the drying processes before determining whether to clean, repair, bind, reorder, or discard individual volumes. A similar program sequence has been followed herein, modified however, to offer the option of cost control by administrative review of materials for salvage in advance of the vacuum-freeze-dry and rehumidification processes.

Information is not included concerning the conservation and preservation of library materials apart from emergencies.

ACKNOWLEDGMENTS

Material for this manual was obtained from a variety of sources, which include the following publications: Procedures for Salvage of Water Damaged Materials, by Peter Waters; Preparing for Emergencies and Disasters, issued by the Office of Management Studies, Association of Research Libraries, and the Disaster Recovery Plan, prepared by Albert Berkowitz for the National Library of Medicine, reproduced therein; Emergency Manual, issued by the Cornell University Libraries; Disaster Prevention and Disaster Preparedness, by Hilda Bohem; and Library Disaster Manual, issued by the Oregon State University Library.

Thanks are due to the following persons for their time, interest, and special assistance: Ms. Krupa, Office of Special Collections, University of Washington Libraries; Mr. Jack Thompson, Northwest Conservation Center; Ms. Hilda Bohem, Associate Librarian, University of California at Los Angeles; Mr. Kenneth W. Duckett, Curator, Special Collections, University of Oregon Library; Mr. Glen Manley, Tektronix, Inc.; Mrs. Heather Rosenwinkel, Oregon Health Sciences University Library; and the staff of the Restoration Office, Library of Congress, and Reference Service Division, National Library of Medicine.

A. Disasters which may affect libraries arise most frequently from fire, water, smoke, and structural failure. Examples of events or situations from which emergencies may follow are noted below.

1. Fire.

Immediate causes of fire may include accidents, defective equipment and wiring, arson, vandalism, and smokers' carelessness.

2. Water.

Flooding may follow from fire fighting, leakage from burst pipes, and exposure to weather as a result of structural damage attendant to earthquakes and storms.

3. Smoke.

Soot and other pollutants may be generated by the burning of electrical cables, machinery, and transmission equipment, and the ignition of furnishings, draperies, waste paper, and packing materials.

4. Structural failure.

Earthquakes, explosions, fires, and storms are the most frequent sources of building damage.

B. Library staff, when on duty, are at all times responsible for noting and reporting promptly the presence of smoke, fire, and water, and structural failure. Include the following elements when reporting:

1. Describe the size, extent, or type of emergency:

a. Size of fire.
b. Extent of water or smoke accumulation.
c. Type of structural damage resulting from earthquake, explosion, or storm.

2. Identify the damage area:

a. Building location, e.g. Library East, Library West, Neuberger Hall, Ondine Building.

b. Floor level, e.g. Basement, First Floor, etc.

3. Describe collection or facilities involved:

a. Card catalog.

b. Shelf list and authority files.
c. General or special collections:

(1) Monographs.
(2) Documents.
(3) Maps.
(4) Microforms.
(5) Picture files.
(6) Vertical files.

d. Conference and study rooms.
e. Faculty carrels.
f. Administrative offices.
g. Computer terminals and printers.
h. Staff work areas.
i. Audio-visual collections:

(1) Monographs and music scores.
(2) Films, filmstrips, and transparencies.
(3) Phonograph recordings.
(4) Tape recordings.
(5) Special facilities:

(a) Listening equipment.
(b) Motion picture projectors.
(c) Recording equipment.
(d) Photographic equipment.
(e) Repair and service gear.

j. Learning Laboratory:

(1) Listening equipment.
(2) Tape recordings.

k. Television Services:

(1) Television cameras.
(2) Other technical equipment
(3) Video-tapes.

4. State nearest stack range number, or give other location designation.

C. Be alert to, and report the presence and location of any electric wire or wires which may be exposed to water.

A. Upon discovery of fire, water, or other damage, personnel at each reporting level are responsible for notifying immediately the supervisory staff at the next level, indicating location and other details of the emergency, in the manner outlin in the preceding section.

N. B. If any supervisory staff member designated to receive a report of an emergency is not immediately available, the information should be directed at once to supervisory staff at the next higher reporting level.

B. Channel reports Monday through Friday, from 8:00 a.m. to 5:00 p.m. as follows:

1. Nonsupervisory staff.

a. Audio-Visual Services personnel to Director of Audio-Visual Services 4514

b. General Services personnel to respective administrative unit heads:

(1) Circulation (Mrs. Byrd) 4424
(2) Interlibrary Loan (Ms. Crowell) 4545
(3) Reserve Book Room (Mrs. Evans) 4518

c. Learning Laboratory personnel to Supervisor of Learning Laboratory 3490

d. Processing Services personnel to respective section heads:

(1) Acquisitions (Mr. Westover) 4543
(2) Cataloging (Mr. Tamblyn) 4550
(3) Serials (Ms. Metcalf) 4551

e. Readers Services personnel to Head of Readers Services 4520

f. Television Services personnel to Director of Television Services 3537

2. Supervisory staff.

The respective directors of the Audio-Visual Department and Television Services, Head of Readers Services, respective section heads of Processing Services, and supervisors in General Services and the Learning Laboratory report to one of the following, in the order given:

a. Director of the Library 4521/643-4959
b. Assistant Director of the Library 4641/234-5817
c. Designee of the Director of the Library

3. If persons in the Office of the Director of the Library are not available, report emergencies in accordance with the guidelines in the sections preceding and appropriate Action Steps in the sections following. Continue attempts to notify the Director or Assistant Director of the Library as soon as possible, either on campus or at home.

C. Channel reports of emergencies at all times other than Monday through Friday, from 8:00 a.m. to 5:00 p.m., as follows:

1. All Library personnel to the librarian-in-charge, or designee, at the Library West Information Desk 4617

2. The librarian-in-charge will take appropriate action and notify the Director or Assistant Director of the Library at home.

A. Keep calm. You help no one by panic and you may panic others.

B. Follow reporting procedures in preceding sections. Also pull fire alarm box. Locations of nearest fire alarm boxes and fire exits are shown on the floor maps in Appendix J. N. B. Door alarms ring only at each door and do not activate the fire alarm system. Use the red pull fire alarm in case of fire.

C. If the Library personnel listed under Reporting Procedure are not available, call the Campus Safety and Security Office (ext. 4404) at once, and report the fire. Call the Director or Assistant Director of the Library at home if potential damage or actual loss appears likely.

D. Station a staff member at the entrance of the building to meet the Campus Safety and Security and Fire Bureau personnel, and others responding to the emergency.

E. Clear people from floors and close all doors. Avoid use of the elevators. Be sure all persons leave the building.

F. Provide help for the handicapped. If safe, check:

1. Faculty carrels.
2. Restrooms.
3. Lounges.
4. Stairwells.
5. Elevators.

G. If fire occurs in Library West, in the basement areas of Library East, Neuberger Hall, or the Ondine Building, or after dark, and is accompanied by a power failure, provide emergency lighting for floor areas, stairwells, and landings using flashlights and chemically activated safety lights (Cyalume Lightsticks).

1. A supply of lightsticks has been placed on the bottom shelf of the supply closet adjacent to the staff elevator on each floor of Library West, and in the shallow center drawer of each librarian's desk in Library West, in the desks of staff in the Audio-Visual Department, and throughout the Learning Laboratory in Neuberger Hall.

2. Activate the lightstick as follows:

a. Remove protective cover; take care not to puncture the foil wrapper.

b. Bend lightstick and shake.

3. Tape lightsticks to inside landings of stairwells, to stairwell entrances, and to stack ranges to light exit pathways.

H. Follow additional instructions for fire emergencies issued by the University Safety Office, and reproduced on the pages immediately following.

I. The Portland Fire Bureau, in addition to responding to a report of fire, performs a variety of related services; these include, but are not limited to the following:

1. Provision of covers to prevent water damage to as much material as possible, in the event of a large fire.

2. Use of fine-spray hose nozzles when feasible to minimize book damage.

3. Provision of fans for smoke dispersal and air circulation.

4. Removal of water used to extinguish fire with mops and other equipment.

J. Following a fire emergency, review the cause and take steps to prevent a reoccurrence. Note the following guidelines:

1. Avoid the accumulation of loose papers, trash, and other inflammable materials.

2. Enforce no smoking regulations.

3. Specify fire resistant materials for carpets, draperies, and upholstery.

4. Turn off electrical equipment when not in use; unplug when feasible.

5. Report promptly potential fire hazards from worn or damaged equipment and malfunctioning building facilities.

6. Avoid storage of books, journals, and other library materials on floors; avoid blockage of aisles and passageways.

SECTION II.A. FIRE ALARMS

REASON FOR THIS GUIDE:

The fire alarm systems within the campus buildings do not all contain the same functions nor do they all have the same sound. Employes and students should familiarize themselves with the operation, the distinct sound of the alarm, and the proper procedures for turning in an alarm if the need should arise.

GUIDES:

1. The instructions reproduced below are from the Emergency Procedures poster which is posted on numerous bulletin-boards throughout the campus buildings.

FIRE:

1. CLEAR THE ROOM & CLOSE ALL DOORS.
2. PULL THE NEAREST FIRE ALARM STATION OR BOX.
3. PHONE CAMPUS SECURITY OFFICE. GIVE YOUR NAME, LOCATION OF THE FIRE (BUILDING & FLOOR), TYPE AND SIZE OF FIRE. **EXT. 4404**
4. BE SURE ALL PERSONS LEAVE BUILDING -- HELP THE HANDICAPPED.
5. STAY OUT -- UNTIL FURTHER NOTICE.

? where is the

FIRE ALARM AT EACH BUILDING EXIT.

EXTINGUISHER _____

FIRE BLANKET _____

NEAREST EXIT _____

NEAREST PHONE _____

NOTES: a) DO NOT use elevators. Elevator shafts often fill with smoke and there is always a chance of power failure.

b) TURN OFF all appliances; those which may become hazardous if left unattended.

c) After following the above instructions, proceed to the main entrance of the building and provide direction to the arriving fire personnel.

2. Every employe (and student) is responsible for knowing the following:

a) Proper procedure for summoning fire assistance.

b) Location and operation of nearest alarm stations.

c) Location and operation of nearest fire extinguisher and the correct type of extinguisher to use according to the fire type.

d) Proper emergency routes; both primary and secondary. DO NOT use elevators.

e) Any equipment which should be shut down in case of an emergency and the correct procedures for doing so.

3. For your information and understanding of the system, your call to Extension 4404 (Security) starts the following procedural chain:

a) The Campus Safety & Security Office (CSSO) dispatcher answering the fire call records the name of the caller, the building, floor, and room number, and the type of fire, if known.

b) The CSSO dispatcher then calls the fire department and reports the building and location of the fire. Physical Plant, Safety Coordinator, Parking Office, and other key personnel are notified to assist with the emergency.

c) The CSSO on-duty personnel will respond to the location of the fire and function in accordance to standard department policy.

4. What you should do if you hear the building fire alarm.

a) The fire alarm may be used by officials to evacuate the building for reasons other than fire; i.e. bomb threats, natural disasters, gas leaks, etc.

b) You should assist others in reaching the closest available exit which is safe to use.

c) DO NOT use the elevators! You may become trapped.

d) DO NOT yell "Fire!"

e) DO NOT run when leaving the building.

f) Once you are outside the building, DO NOT return until directed to do so by the Fire department personnel, the Safety Coordinator, or a CSSO official.

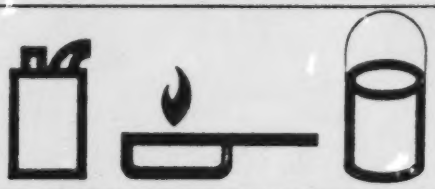
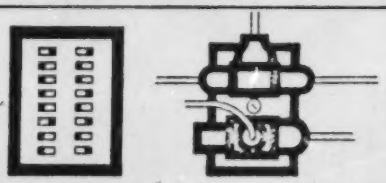
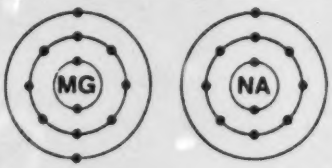
SECTION II.B. FIRE EXTINGUISHERS

REASON FOR THIS GUIDE:

To be properly prepared in a fire situation, a person must have a working knowledge of fire extinguishers; how to operate the different styles of extinguisners and which type of extinguisher to use on the fire "at hand".

GUIDES:

1. Below is an explanation of the different "classes" of fire. Use only those extinguishers which are rated for your particular class of fire.

FIRE CLASSIFICATION		
Green	**Ordinary Combustibles** Fires in paper, wood, drapes and upholstery require a water type extinguisher labeled A.	
Red	**Flammable Liquids** Fires in fuel oil, gasoline, paint, grease in a frying pan, solvents, and other flammable liquids require an extinguisher labeled B.	
Blue	**Electrical Equipment** Fires started in wiring, overheated fuse boxes, conductors, and other electrical sources require an extinguisher labeled C.	
Yellow	**Metals** Certain metals such as magnesium and sodium require special dry powder extinguishants labeled D.	

2. Listed below are the steps to how most fire extinguishers work. Read the instructions on the extinguisher in your work area today.

1. Pull

Pull the pin. Some units require the releasing of a lock latch, pressing a puncture lever, inversion, or other motion.

2. Aim

Aim the extinguisher nozzle (horn, or hose) at the base of the fire.

3. Squeeze

Squeeze or press the handle.

4. Sweep

Sweep from side to side at the base of the fire. Watch for reflash. Discharge the contents of the extinguisher.

Foam and water extinguishers require slightly different action. Read the instructions.

3. WHEN DO YOU FIGHT A FIRE?
Refer to Section II.A. FIRE ALARMS (page 12).
IF after giving the alarm, calling the Security office, and seeing that all others have left the building; If the fire is still small, THEN approach with the proper extinguisher and attempt to put it out. Keep in mind to stay between the fire and your exit at all times.

a) If you succeed in extinguishing the fire, stay out of the smoke and fumes but keep a watch on the fire scene until fire personnel arrive. The hotter the fire, the greater a chance of a "flash-back"; re-ignition.

b) If the fire becomes "out-of-hand", immediately leave the area, close the door behind you and leave the building.

4. Whenever a fire extinguisher is discharged, notify the Physical Plant, Ext. 3738, so that it can be replaced with a charged unit.

SECTION II.C. FIRE PREVENTION

REASON FOR THIS GUIDE:

Every year millions of dollars are lost to fire; including loss of property, equipment, and lives. These losses occur in homes and workplaces, in kitchens and in laboratories, caused by children and adults, from an accidental or careless act.

GUIDES:

1. HOUSEKEEPING: Housekeeping is the first step in Fire Prevention. Do not allow waste to accumulate; papers, cardboard boxes, bottles, cans, rags, etc.

The Portland Recycling Team (228-6760) will pick up all recyclable materials if you call the above number; paper, boxes (flattened), glass and metal cans.

Rags or paper used for cleaning with solvents are to be stored in metal containers with covers and emptied daily into outside waste containers.

2. SAFE PROCEDURES: Be aware of and use constantly good work habits and practices. Clean up materials from the job before leaving for the day. Take special care with cigarettes--do not smoke in restricted areas and be sure the cigarette is disposed of properly. Do not use highly flammable solvents for cleaning--there are non-flammable cleansers available. Do not overload electrical circuits--only one appliance per wall outlet/socket. Refer to Section I.F., Electrical (page 8).

3. ALARMS & EXTINGUISHERS: Know the location of fire fighting equipment before you have need to use it. Know the proper procedures in using the devices. Refer to Sections II.A. & II.B. (pages 12 & 16).

A. Do not enter a flooded area until the University Physical Plant or the Portland Fire Bureau has disconnected the electric power supply. There is extreme danger of injury or death from electric shock.

B. Post a staff member at the entrance to the flooded area to keep out unauthorized persons.

C. Follow the Reporting Procedures in the preceding sections. If the key persons listed there cannot be reached, call the Campus Safety and Security Office (ext. 4404) and the University Physical Plant (ext. 3738) at once, and report the location and description of the emergency.

D. Inform the Director or Assistant Director of the Library as soon as possible, either on campus or at home.

A. Clear area if the presence of toxic fumes or smoke is suspected.
N. B. The compustion of certain synthetic materials may produce gases which are harmful when concentrated in a closed area.

B. Post a staff member outside the danger area to keep out unauthorized persons.

C. Follow the reporting procedures in the preceding sections. If the key persons listed there cannot be reached, call the Campus Safety and Security Office (ext. 4404) and the University Physical Plant (ext. 3738) at once, and report the location and description of the emergency.

D. Inform the Director or Assistant Director of the Library as soon as possible, either on campus or at home.

A. Plan I.

Freezer accomodations are available on the University campus.

No more than approximately fifteen shelves of books require freezing.

B. Plan II.

University campus freezer capacity is exceeded.

No more than approximately fifty shelves of books require freezing.

C. Plan III.

Catastrophic flooding and related damage have occurred.

More than fifty shelves of books require freezing.

D. Determination by the Director of the Library of the scope of the salvage actions to be taken involves consideration of the following:

1. Type and kind of material damaged.
2. Condition of the building where the damage occurred.
3. Extent of coverage by the Restoration Fund.
4. Presence and nature of contaminants, if any.
5. Quantity of material involved.
6. Availability and cost of equipment, facilities, and services required for salvage.

A. Follow Plan I when there are on-campus freezer accomodations, and no more than approximately fifteen shelves of books require freezing.

1. The Director of the Library will administer all operations, and take the following action:

a. Activate the Salvage Team Leader or Leaders appropriate to the area or areas involved, using the Salvage Team Roster; see Appendix A.

b. Request the University Physical Plant to stop leaks or other source of liquid damage.

c. Arrange for consultation with experienced conservation and restoration specialists; see Appendix C.

d. Request the University Physical Plant, Campus Safety and Security Office, and Portland Fire Bureau (if appropriate) to determine whether damage area is safe to enter.

(1) If water is still present, freedom from electrical shock hazard must be verified.

(2) If structural damage may have occurred, building stability must be verified.

e. Request emergency freezer space from the University Food Service.

f. Request Audio-Visual Department photographer to take pictures of damage area before, during, and after salvage operations.

g. Request emergency procurement of supplemental salvage equipment, services, and supplies by the University Business Office.

h. Request University Physical Plant to reduce temperature and humidity in damage area through use of portable air conditioners and dehumidifiers, where appropriate; through opening of windows where feasible; and in winter, through introduction of cold outside air. N. B. Indoor temperature should not be permitted to drop below freezing level.

B. The Salvage Team Leader will then proceed as follows:

1. Mobilize the Salvage Team (usually four to six persons) and assign duties.

2. Provide briefing to the Salvage Team on priorities and methods for handling and packing of damaged materials, following procedures noted in Appendices F through I, and in Procedures for

Salvage of Water-Damaged Library Materials, by Peter Waters.

3. If water damage has been preceded by fire, alert all persons to watch for presence of hot spots, which may exist for as long as one week following a fire. N. B. If any object feels warm—cardboard box, file cabinet, etc.--avoid opening it and notify the Portland Fire Bureau.

4. Call for additional volunteers, if required.

5. Cover affected and adjoining shelving with plastic sheeting, if the source of liquid damage has not been stopped.

6. Identify equipment requiring salvage, giving priority to the following:

Item	Building	Area
Shelf list	Library East	Processing Services
Serials record	Library East	Processing Services
Documents file	Library West	Third Floor
Map file	Library West	Fourth Floor
Special collections	Library West	Ground Floor
Administrative files	Library West	Ground Floor
Card catalog	Library West	Ground Floor

7. Identify and separate materials requiring special handling, and treat them in accordance with special instructions for each as noted in Appendix I. When handling such materials, give priority to each type in the following order:

   a. Materials which have already developed mold.

   b. Leather- and vellum-bound volumes.

   c. Manuscripts, art on paper stock, and other separate sheets.

   d. Materials on coated papers.

   e. Photographic prints.

   f. Journal and monographic volumes on noncoated stock.

8. Move crates from storage to damage area and pack materials. Follow special instructions for handling and packing of wet, damp, charred, or burned material in Appendices G and H.

9. Label crates as to range, section, and shelf with pressure-sensitive labels.

10. If necessary to accelerate freezing, or if delays in reaching the freezer are anticipated, place dry ice in crates with materials to be salvaged.

11. Special gloves must be worn when handling dry ice. For campus source of dry ice and gloves, see Appendix D.

12. Deliver the loaded crates to the University Food Service lockers; for locations call:

    Mr. Neal Hendrickson
    Director, Food Services
    4523
    236-8181

13. Arrange for any excess water in damage area to be mopped, sponged, or wiped up; for campus source of equipment and supplies, see Appendices D and E.

14. The University Food Service freezers will accomodate only approximately 15 shelves of books, and are available for relatively limited time periods. If the University campus freezer capacity is exceeded, utilize Plan II. If catastrophic flooding occurs, use Plan III.

C. Select vacuum-freeze-dry services following authorization by the Director of the Library and recommendation by conservation and restoration experts. See Plan III Action Steps, par. F for sources.

A. Follow Plan II when on-campus freezer capacity is exceeded, but there are sufficient crates on hand to move damaged materials by rented truck or other means to a freezer plant, and no more than approximately 50 shelves of books require freezing.

1. Follow Action Steps in Plan I, except those providing for use of University Food Service freezer storage facilities (pars. A.1.e. and B.12). Arrange for freezer space with one of the following:

a. Termicold Corporation
Mr. Dick Taylor, Marketing Services, or
Mr. David Gross, Manager, Warehousing Operations
1515 S. W. Fifth Avenue
Portland, Oregon 97201
224-3480

This organization has very large freezer facilities in a number of areas. Five are located in neighboring communities, each approximately one hour's drive from the University. Designation of the facility to be used and determination of cost will be made by Termicold at the time the request is received.

b. Cooper Frozen Food Market
Mr. Oly Einerson
10933 S. E. Main Street
Milwaukie, Oregon 97216
654-5415

The freezer capacity available is very substantially less than that offered by the Termicold Corporation. The storage facility is 50' by 60'; individual spaces are 6' wide, 30' deep, and 12' high; rental $30/month. Two spaces can be made available on short notice. Space may be guaranteed upon payment of a yearly retainer.

2. For rental of a freezer truck, call the only available local source:

Ryder Truck Rental
310 North Columbia Boulevard
Portland, Oregon 97217
283-1121

Three trucks are offered, 18', 20', and 22' in length. Match size to load if possible; note that multiple trips may be made. State regulations require that the driver hold a valid Oregon chauffeur's license. The purchase

of insurance is not required since coverage is provided by the State.

Current rental cost is $69/day for an 18' truck, $72/day for 20' and 22' trucks, plus 19 cents per mile, and $1/hour for each hour the refrigerator runs. Either a University purchase order or an individual VISA credit card will be accepted.

Directions to Ryder Truck Rental are as follows:

North on I-5 to Lombard Street exit; east (right) on Lombard Street to Vancouver Avenue; north (left) on Vancouver Avenue to Columbia Boulevard; west (left) on Columbia Boulevard approximately one block to 310 on south (left) side of the street.

3. If there is more than one hour's delay in loading damaged material and transporting it to the freezer, pack dry ice in and around the crates. For campus source of dry ice, see Appendix D. Special gloves must be worn when handling dry ice; for campus source see Appendix D.

4. If the weather is cool and the distance to be traveled to the freezer facility requires less than one hour's drive, use standard motor trucks available from the University Warehouse.

5. Use volunteers to provide additional transportation to the freezer facility, if available; see Appendix B.

6. If books printed on coated stock cannot be frozen within five to six hours, interleave with newsprint. For campus source, see Appendix D.

7. If building is unusable, remove undamaged materials to another location.

8. Obtain pallets from the University Warehouse to hold stacked crates, if required. A fork-lift hoist also is available from the same source.

B. Select vacuum-freeze-dry services following authorization by the Director of the Library and recommendation by conservation and restoration experts. See Plan III Action Steps, par. F for sources.

A. Follow Plan III when there is catastrophic flooding, on-campus freezer capacity is exceeded, and a sufficient number of crates to move the damaged material to a freezer facility are not on hand.

B. Follow Action Steps in Plan I other than those providing for University Food Service freezer storage facilities (pars. A.1.e. and B.12); then follow Action Steps in Plan II.

C. If additional crates are needed, try:

1. Interinstitutional Library Council
   Office of the Chairman
   University of Oregon Library
   191-197-3056
   Eugene, Oregon

2. Fred Meyer, Inc.
   Mr. Wayne Abbott, Vice President
   3800 S. E. 22nd Avenue
   Portland, Oregon 97202
   232-8844

D. If a refrigerator truck is not available from Ryder Truck Rental, the following have indicated a willingness to consider a request for the loan of such a vehicle:

1. Fred Meyer, Inc.
   Mr. Wayne Abbott, Vice President
   3800 S. E. 22nd Avenue
   Portland, Oregon 97202
   232-8844

2. Safeway Stores, Inc.
   Ms. Ruth Flanagan, Public Relations Manager
   P. O. Box 523
   Clackamas, Oregon 97015
   656-1461

E. If the weather is cool and the distance to be traveled to the freezer facility requires less than one hour's drive, use standard motor trucks available from the University Warehouse.

F. Select vacuum-freeze-dry services following authorization by the Director of the Library and recommendation by conservation and restoration experts. Such services may be supplied by the following:

1. Oregon Freeze Dry Foods
   770 Twenty-ninth Street, S. W.
   Albany, Oregon 97321
   191-9-926-6001

This facility has very limited space which is available for material packed in crates; closely-spaced shelves in the freezer require material to be spread in thin layers. Access is contingent upon ability to interrupt regular operations. Service is not specifically priced, but is described as "very costly." The company has had some experience with the drying of water-soaked contents of file cabinets from several State agencies.

2. Oregon State University
Dept. of Food Science and Technology
Wiegand Hall, Room 100
Corvallis, Oregon
191-3131

A very small chamber is available, with the capacity for drying approximately 25 books at one time.

G. Use of the facilities owned by the following organizations is not presently available by prearrangement:

1. Boeing Company
Seattle, Washington
(206) 655-1131

2. Lockheed Corporation
STARS Chamber
Sunnyvale, California
(408) 742-4321

3. McDonnell Douglas
St. Louis, Missouri
(314) 232-0232

A. After the initial salvage operations set forth in Plans I, II, or III have been completed, follow the procedures for the restoration or discard of damaged material authorized by the Director of the Library and the conservation and restoration specialists.

B. Hold meetings of Salvage Team Leaders, Members, and the Director of the Library to plan for prevention of similar emergencies, and to evaluate the recovery efforts.

C. Prepare a written report describing the disaster and the effectiveness of the response to it.

D. Send letters of appreciation signed by the Director of the Library to all persons and groups which provided support for the salvage effort.

APPENDICES LIST

A. Salvage Team Roster

B. Library Staff Volunteer Roster

C. Conservation and Restoration Specialists

D. Miscellaneous Supply Sources

E. Equipment and Service Sources

F. Freezing Priorities

G. Handling of Wet or Damp Material for Freezing

H. Packing of Wet or Damp Material for Freezing

I. Handling of Special Materials:

Archival Storage Boxes
Separate Sheets and Leaves
Photographic Materials
Audio-Visual Materials

J. Location of Fire Alarm Boxes, Hoses, and Portable Extinguishers:

Library East
Library West
Neuberger Hall
Ondine Building

APPENDIX A

SALVAGE TEAM ROSTER

Location	Area	Name	Office Telephone	Home Telephone
Library East				
Basement	Audio-Visual	Dr. Kuo	4514	245-4013
	Services	Mr. Midson	4514	641-2536
Street Floor	Reserve Book Room	Mr. Butler	4641	234-5817
Mezzanine and Second Floors	Processing Services:			
	Acquisitions	Mr. Westover	4543	236-2354
	Cataloging including Preparations			
	Unit	Mr. Tamblyn	4550	223-1532
	Serials	Ms. Metcalf	4551	254-9086
Library West				
Basement	Readers Services	Ms. Greey	3684	228-4446
Street Floor	Administration	Mr. Pfingsten	4521	643-4959
	Circulation	Mr. Butler	4641	234-5817
	Information	Mr. Butler	4641	234-5817
	Interlibrary Loan	Mr. Butler	4641	234-5817
Second Floor	Readers Services	Mr. Newberry	4097	222-7257
Third Floor	"	Mr. DeGraaff	4753	621-3865
Fourth Floor	"	Mr. Gerity	3493	235-0234
Fifth Floor	"	Mr. Lockerby	4735	-
Neuberger Hall				
Basement	Learning Laboratory	Mr. Nuffer	3490	665-8501
Fifth Floor	Television Services	Mr. Walker	3537	659-1713
Ondine Building				
Basement	Storage	Mr. Butler	4641	234-5817

APPENDIX B LIBRARY STAFF VOLUNTEER ROSTER

The following individuals are willing to volunteer personal services and the use of personal vehicle in case of emergency:

Name	Type of Vehicle	Office Telephone	Home Telephone

APPENDIX C CONSERVATION AND RESTORATION SPECIALISTS

A. Local.

Mr. Jack Thompson
Northwest Conservation Center
1417 N. W. Everett Street
Portland, Oregon 97209
248-0046

B. Other [reproduced from the publication: Disaster Prevention and Disaster Preparedness, by Hilda Bohem].

Appendix B SOURCES OF ASSISTANCE*

The following persons are known to have had actual experience in the salvage and preservation of flood-damaged materials:

Paul Banks
Conservator
The Newberry Library
60 West Walton Street
Chicago, IL 60610
(312) 943-9090

George Cunha – *Director Emeritus*
Ann Russell – *Director*
New England Document
Conservation Center
Abbot Hall
School Street
Andover, MA 01810
(617) 470-1010

Eastman Kodak Company
Photo Information
343 State Street
Rochester, NY 14650
(716) 724-4000

Carolyn Horton
Conservator
Carolyn Horton Associates, Inc.
430 West 22nd Street
New York, NY 10011
(212) 989-1471

Theodore Kahle
Conservator
Capricornus Restoration Workshop
2280 Fulton Street
Berkeley, CA 94704
(415) 843-7860 or
(415) 658-7930 [home]

Robert E. McComb, Ph. D.
Physical Scientist
Research & Testing Office
Library of Congress
110 Second Street, SE
Washington, D.C. 20540
(202) 287-5607

Robert M. Organ
Director
Conservation-Analytical
Laboratory HTB AB070
Smithsonian Institution
Washington, D.C. 20560
(202) 381-5714
[Not books]

Stella Patri
Conservator
1828 Mason Street
San Francisco, CA 94133
(415) 982-2595

Willman Spawn
Conservator
American Philosophical
Society Library
105 South Fifth Street
Philadelphia, PA 19106
(215) 627-0706 or
(215) 567-4566 [home]

Peter Waters
Restoration Officer
Library of Congress
110 Second Street, SE
Washington, D.C. 20540
(202) 287-5634 or
(202) 287-5437

Marilyn Kemp Weidner
Director
Conservation Center for Art
and Historic Artifacts
260 South Broad Street
Philadelphia, PA 19102
(215) 545-0613 or
(215) 627-2303 [home]

In addition, the Library of Congress, (202) 287-5000, may be contacted for technical advice.

*This is an updated version of a list which originally appeared in Peter Waters, *Procedures for Salvage of Water-Damaged Library Materials*, Washington, D.C., Library of Congress, 1975.

Revised 1/4/80

APPENDIX D MISCELLANEOUS SUPPLY SOURCES

A. General.

Item	Source	Telephone
Aprons, rubber	University Chemistry Stores	3869/3723
Bubble plastic wrap	Ondine Building or Western Paper Company, Portland	289-2800
First aid kits	Library West supply room	4616
Garden hoses	University Physical Plant	3738
Gloves cotton (dry ice)	University Chemistry Stores	3869/3723
Gloves, rubber	University Chemistry Stores	3869/3723
Labels, pressure sensitive	Library West supply room	4616
Log book	Library West supply room	4616
Nylon cord	Processing Services mail area	4541
Pencils and ball point pens	Library West supply room	4616
Plastic bags, all sizes	University Warehouse	4921
Plastic sheeting	University Warehouse	4921
Scissors	Library West supply room	4616
Twine	Processing Services mail area	4541
Writing tablets	Library West supply room	4616

B. Chemicals and Dry Ice.

Dry ice	University Chemistry Stores	3869/3723
Thymol crystals and all other chemicals	University Chemistry Stores	3869/3723

C. Paper.

Cardboard boxes	Trappist Abbey Bookbindery, Lafayette	1-852-7174
Freezer paper	Ondine Building or Western Paper Company, Portland	289-2800
Newsprint	Ondine Building or Carpenter/Offut, Inc. Portland	226-3781
Paper towels	University Physical Plant	3738

D. Plastic Containers.

Garbage cans	University Warehouse	4921
Plastic milk crates	Ondine Building or Interinstitutional Library Council or Fred Meyer, Inc. (loan) or Melmat, Inc., Harbor City, California	191-197-3056 232-8844 (213) 325-1625

APPENDIX E EQUIPMENT AND SERVICE SOURCES

A. Electrical and Mechanical.

Item	Source	Telephone
Air conditioners	University Physical Plant	3738
Dehumidifiers	" " "	3738
Fans	" " "	3738
Generators	" " "	3738
Hygrothermograph	" " "	3738
Pallets and skids	University Warehouse	4921
Sponge mops and buckets	University Physical Plant	3738

B. Motorized Vehicles.

Fork-lift truck	University Warehouse	4921
Freezer truck	Ryder Truck Rental or Fred Meyer, Inc. (loan)	283-1121
	Mr. Wayne Abbott or Safeway Stores, Inc. (loan)	232-8844
	Ms. Ruth Flanagan	656-1461
General purpose truck	University Warehouse	4921

C. Special Services.

Freeze-dry facility, small capacity	Oregon Freeze Dry Foods, Albany, or	191-9-926-9001
	Oregon State University Dept. of Food Science & Technology, Corvallis	191-3131
Freeze-dry facility, large capacity	Boeing Company, Seattle or	(206) 655-2121
	Lockheed Corporation Stars Chamber Sunnyvale, California or	(408) 742-4321
	McDonnell Douglas, St. Louis, Missouri	(314) 232-0232
Freezer storage, small capacity	Cooper Frozen Food Market Mr. Oly Einerson	654-5415
	University Food Services Mr. Neal Hendrickson	4523
Freezer storage, large capacity	Termicold Corporation, Portland Mr. Dick Taylor, Marketing Services, or Mr. David Gross, Manager, Warehousing Operations	224-3480
Photographic material restoration	Eastman Kodak Company, Portland	222-3831

APPENDIX F FREEZING PRIORITIES

A. Materials which have already developed mold. N. B. Heat and humidity may result in mold formation within 48 hours of wetting. However, wet books have been stored in clear running water as long as 14 days and salvaged successfully, if they are cloth- or paper-bound, and printed with inks which are not water soluble.

B. Leather- and vellum-bound volumes.

C. Manuscripts, art on paper stock, and other separate sheets.

D. Materials on coated papers.

E. Photographic prints.

F. Journal and monographic volumes on noncoated stock.

APPENDIX G HANDLING OF WET OR DAMP MATERIAL FOR FREEZING

A. Move tables to damage area to provide work surfaces. Cover all work surfaces with plastic sheeting; adjust table height to avoid strain and reduce fatigue.

B. Avoid opening wet books as a general principle. N. B. All papers become very fragile when wet, and are very easily torn. However, at the discretion of the Team Leader, wet books may be partially opened to determine type of paper stock.

C. Avoid separating single sheets.

D. Avoid removing covers from water-soaked materials.

E. Avoid unpacking wet file boxes which contain papers, prints, drawings, or photographs; freeze as found.

F. Do not attempt to bend or to close open books that are water-soaked and swollen; pack without disturbing their shape.

G. Do not attempt to wash away dirt from wet materials except as specifically directed by a conservation or restoration specialist.

H. Avoid intermixing manuscripts or rare printed books with brittle or deteriorated material, to prevent the possibility of acid migration to the former in the drying process.

I. Take extreme care to avoid crumbling of charred material; place carefully between cardboard sheets, and pack separately.

APPENDIX H PACKING OF WET OR DAMP MATERIAL FOR FREEZING

A. Wrap all wet books individually in one layer of bubble plastic. Leave the top and bottom of each item open. Pack the wettest books first, and those with any sign of mold formation. Next pack very damp or partially wet material. If all wet material can be frozen within a few hours, sorting into the preceding categories is not required.

B. Inspect the remaining books in the damage area. Avoid separating or spacing out the material while working on the salvage of the wet, very damp, or partially wet material. As long as materials remain closely packed, the development of mold will be limited.

C. Pack books into crates loosely so as to increase the speed of freezing. Dry ice may be packed on top of books in the crates if the books are to be moved off campus, or if any appreciable delay in freezing is expected.

D. Pack books in crates with their fore edge down and spine up, rather than in flat stacks.

E. Wrap each book individually before placing it in the crate. However, if two volumes have become bonded together, particularly those in leather or other fine binding, do not separate them; wrap as a set.

F. At the discretion of the Team Leader, a flat layer of books may be placed over a standing base of books in a crate, provided the two are separated by a sheet of bubble plastic. Avoid packing books above the top edge of the crate; the crates will be stacked.

G. Leave sides of crates open to promote faster freezing. Do not overfill crates.

H. Wrap any book or other type of material in bubble plastic before it is placed in the freezer, even if a crate is not to be used.

I. Identify each crate by affixing a pressure-sensitive label which bears a sequence number. Maintain a log providing for each number assigned the range, section, and shelf location; for example, range 4, section 3, shelf 2. Count the section numbers from the range end having the lowest classification number, and count the shelves from top to bottom, i.e. the top shelf is 1, second down is 2, etc.

J. After the removal of all wet materials, and during the time of clean up, move the drier collection from the wet area into a more controlled environment. After the area is clear, arrange for the sterilization of the shelves, walls, floors, and ceilings. Operate fans to circulate air.

K. Do not permit packed material to remain on or near the damage site for more than a few hours, to avoid further increase of the possibility

of mold development.

L. Avoid placing wet books or papers directly on wooden book trucks and placing loaded trucks in freezer storage. Wet books will adhere to the varnish on the trucks.

M. Do not remove books from crates or containers, once packed, until freezing, freeze drying, and fumigation have been completed.

N. In the absence of plastic crates, cardboard boxes may be used to transport books and hold them while being frozen. Line cardboard boxes with plastic sheets before they are packed.

APPENDIX I HANDLING OF SPECIAL MATERIALS

A. Archival Storage Boxes.

1. In the event of wetting only the outside of archival storage boxes may be saturated, provided the boxes were stored tightly together. The material inside may be only damp.

2. Examine the material in boxes for water saturation, and if only damp, repack into crates or dry cardboard boxes.

3. Identify and log the contents of each box or crate before freezing.

B. Separate Sheets and Leaves.

1. Freeze manuscripts, drawings, and hand-colored prints at once; leave their restoration to a restoration specialist.

2. Do not attempt to sponge off mold before freezing. Mold can be removed more easily when the material is dry.

3. When single sheets are found in masses, the preferred handling is to avoid separation, and freeze as found. When freeze drying has been completed, the sheets may be separated readily.

4. When emptying drawers or manuscript boxes, do not turn them upside down, nor handle roughly, to avoid tearing any of the wet contents which may have become stuck to the container. Except as noted in par. A.1 above, freeze containers and contents as found.

C. Photographic Materials.

1. Do not freeze wet photographic materials (films) unless it is impossible to have them professionally dried. The formation of ice crystals during freezing may rupture the emulsion layer.

2. Seal wet film in polyethylene bags, and place bags in running cold water within plastic (never metal) garbage cans until delivery to Eastman Kodak Company plant is possible. There is a limit of approximately three days to the time that black and white negatives can be stored in this way; the limit for color films is approximately two days. Ice may be added to the running water to accelerate chilling.

3. If freezing is attempted as a last resort, process as rapidly as possible to minimize the formation of ice crystals.

4. The Eastman Kodak Company will salvage Eastman film without charge; a charge will be made for the handling of film

manufactured by other firms. The address of the local office is as follows:

Eastman Kodak Company
5410 S. W. Macadam Avenue
Portland, Oregon 97201
222-3831

D. Audio-Visual Materials.

This category includes phonograph recordings, audio- and video-tapes, cassettes, and similar material.

1. Do not freeze. Place in plastic crates and remove from the damage site to a ventilated area for drying.

2. Remove materials from containers and place between sheets of bubble plastic to hasten drying. Defer further action pending evaluation and determination of treatment by conservation and restoration specialists. Take particular care to affix identification labels to each item.

3. Handle wet containers in the same manner as water-damaged books and journals.

APPENDIX J

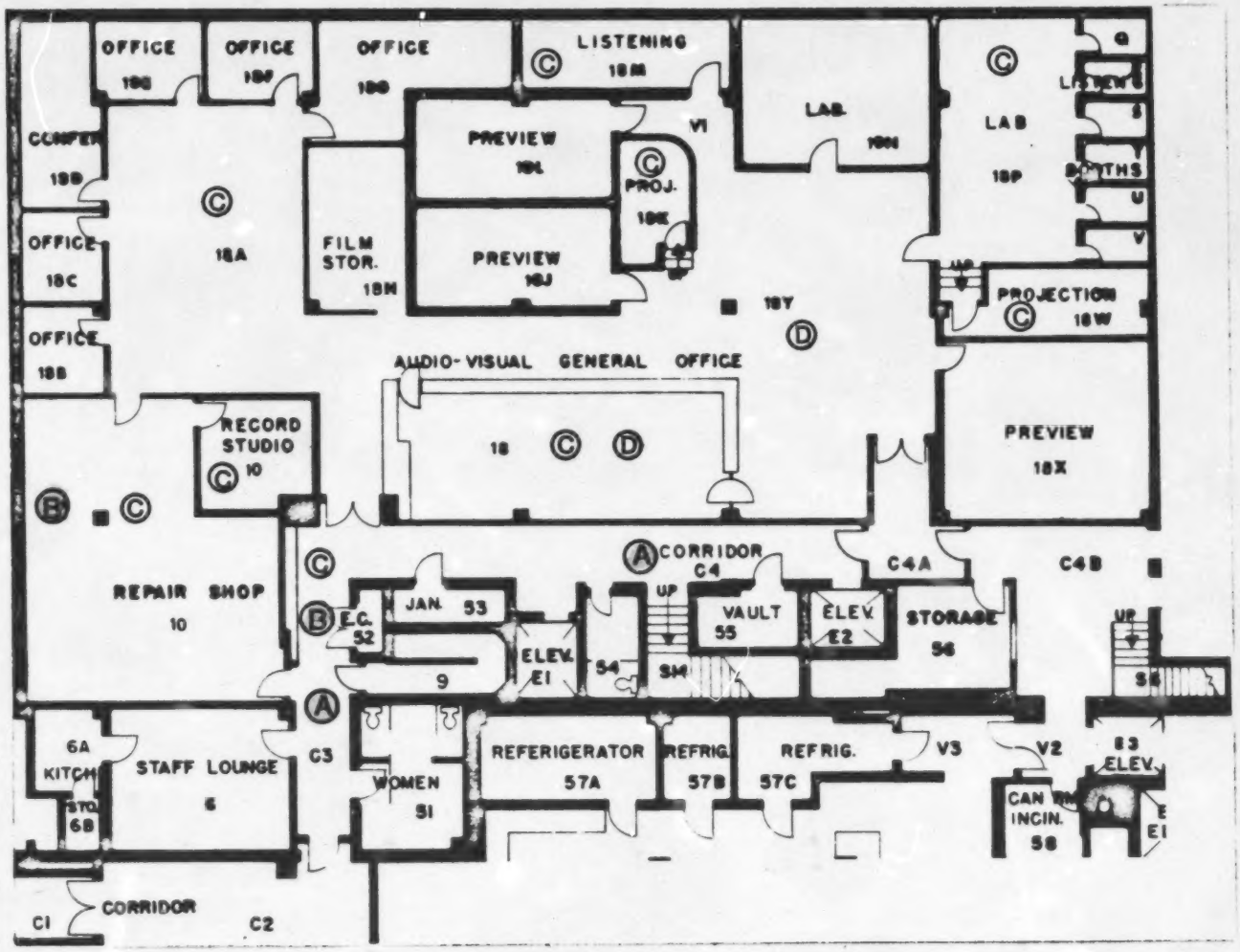
LOCATION OF FIRE ALARM BOXES, HOSES, AND PORTABLE EXTINGUISHERS

A. Library East.

B. Library West.

C. Neuberger Hall.

D. Ondine Building.



AUTOMATIC OVERHEAD SPRINKLERS LOCATED IN ALL AREAS OF FLOOR

(A) FIRE EXIT - PULL FIRE ALARM LOCATED ON WALL

(B) FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

(B) CARBON DIOXIDE (CO_2) FIRE EXTINGUISHER

(C) ELECTRICAL EQUIPMENT

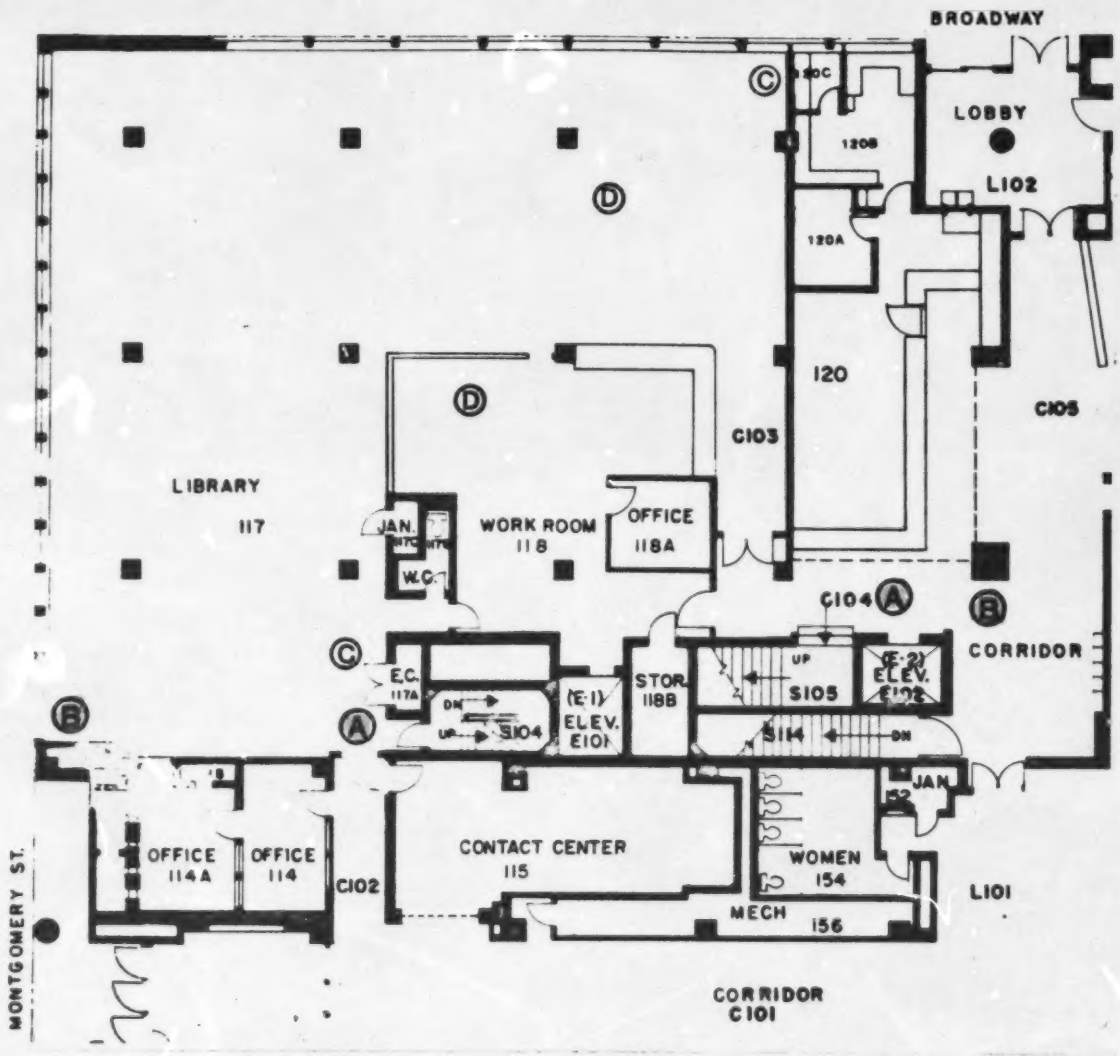
(D) BOOK AND AUDIO-VISUAL MATERIAL SHELVING

PSUL 8/31/83

SMITH MEMORIAL CENTER
LIBRARY EAST BASEMENT
AUDIO-VISUAL DEPARTMENT

PSU PHYSICAL PLANT OCT. 1982

200 N 2



SMITH MEMORIAL CENTER
LIBRARY EAST GROUND FLOOR
RESERVE BOOK ROOM

PSU
PHYSICAL PLANT
OCT. 1982

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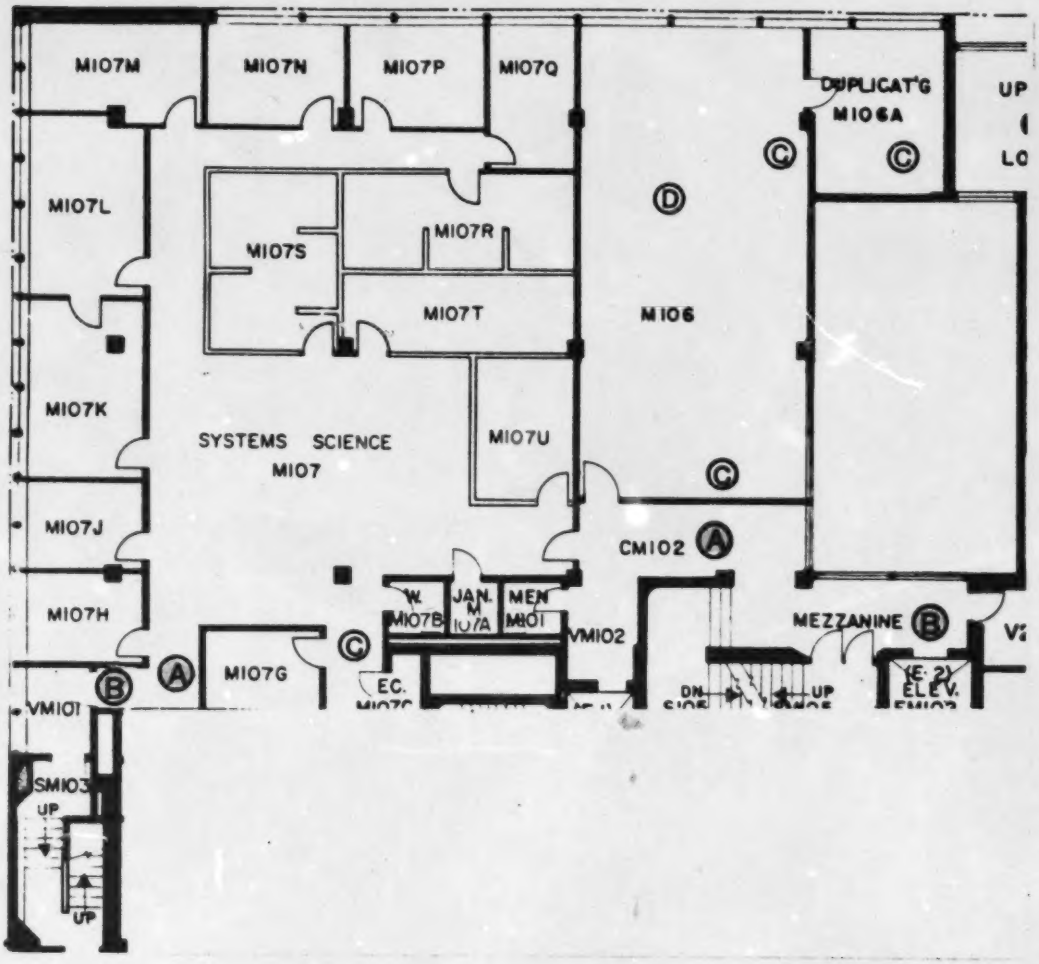

Ⓐ FIRE EXIT - PULL FIRE ALARM LOCATED ON WALL

Ⓑ FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

Ⓒ ELECTRICAL EQUIPMENT

Ⓓ BOOKSTACKS

PSUL 8/31/83

SMITH MEMORIAL CENTER
LIBRARY EAST MEZZANINE FLOOR
PREPARATIONS UNIT

47

PSU
PHYSICAL PLANT
OCT. 1982

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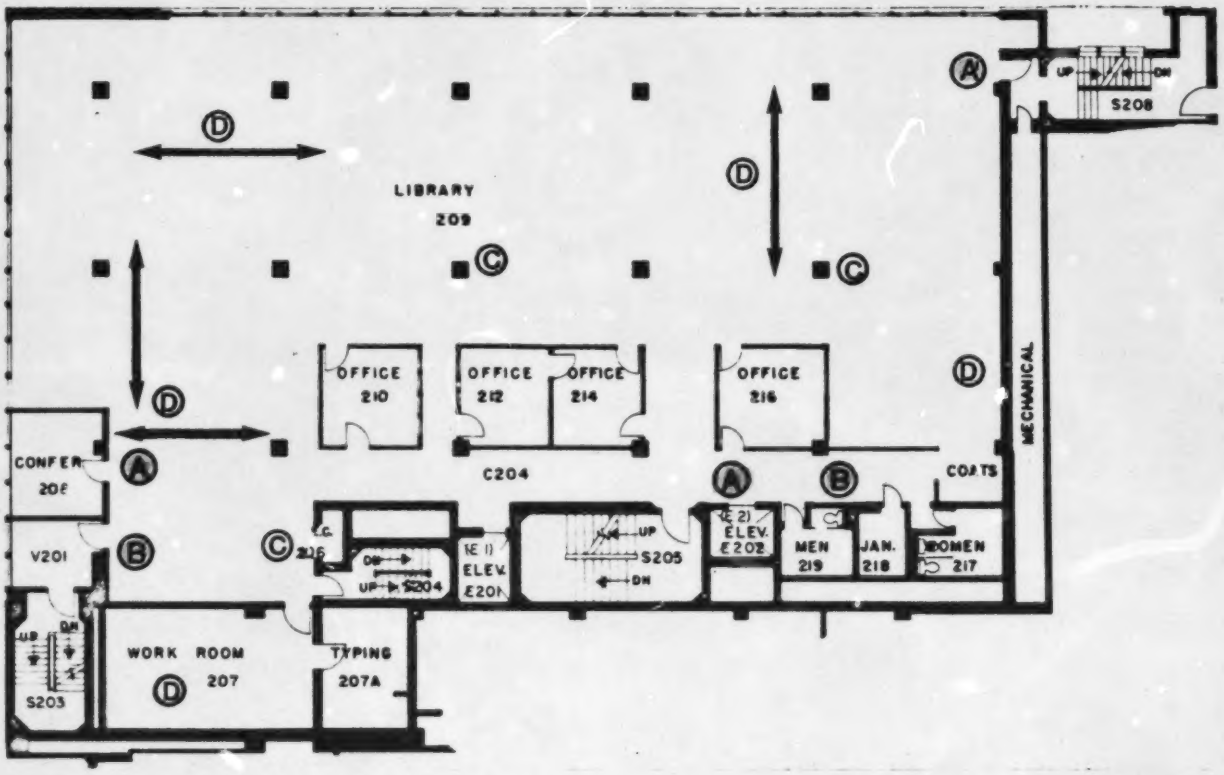

Ⓐ FIRE EXIT - PULL FIRE ALARM LOCATED ON WALL

Ⓐ' FIRE EXIT

Ⓑ FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

Ⓒ ELECTRICAL EQUIPMENT

Ⓓ BOOKSTACKS

PSUL 8/31/83

SMITH MEMORIAL CENTER
LIBRARY EAST SECOND FLOOR
PROCESSING SERVICES DEPARTMENT 48

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PHYSICAL PLANT
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LIBRARY WEST

(A) FIRE EXIT - PULL FIRE ALARM LOCATED INSIDE STAIRWELL

(A) FIRE EXIT - PULL FIRE ALARM LOCATED ON WALL

(B) FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

(C) ELECTRICAL EQUIPMENT

(D) BOOKSTACKS

(E) MICROFORM STORAGE

SMOKE SENSORS AND AUTOMATIC OVERHEAD SPRINKLERS LOCATED IN ALL AREAS

SCALE 0 5 10 15 20

N

PSUL 8/31/83

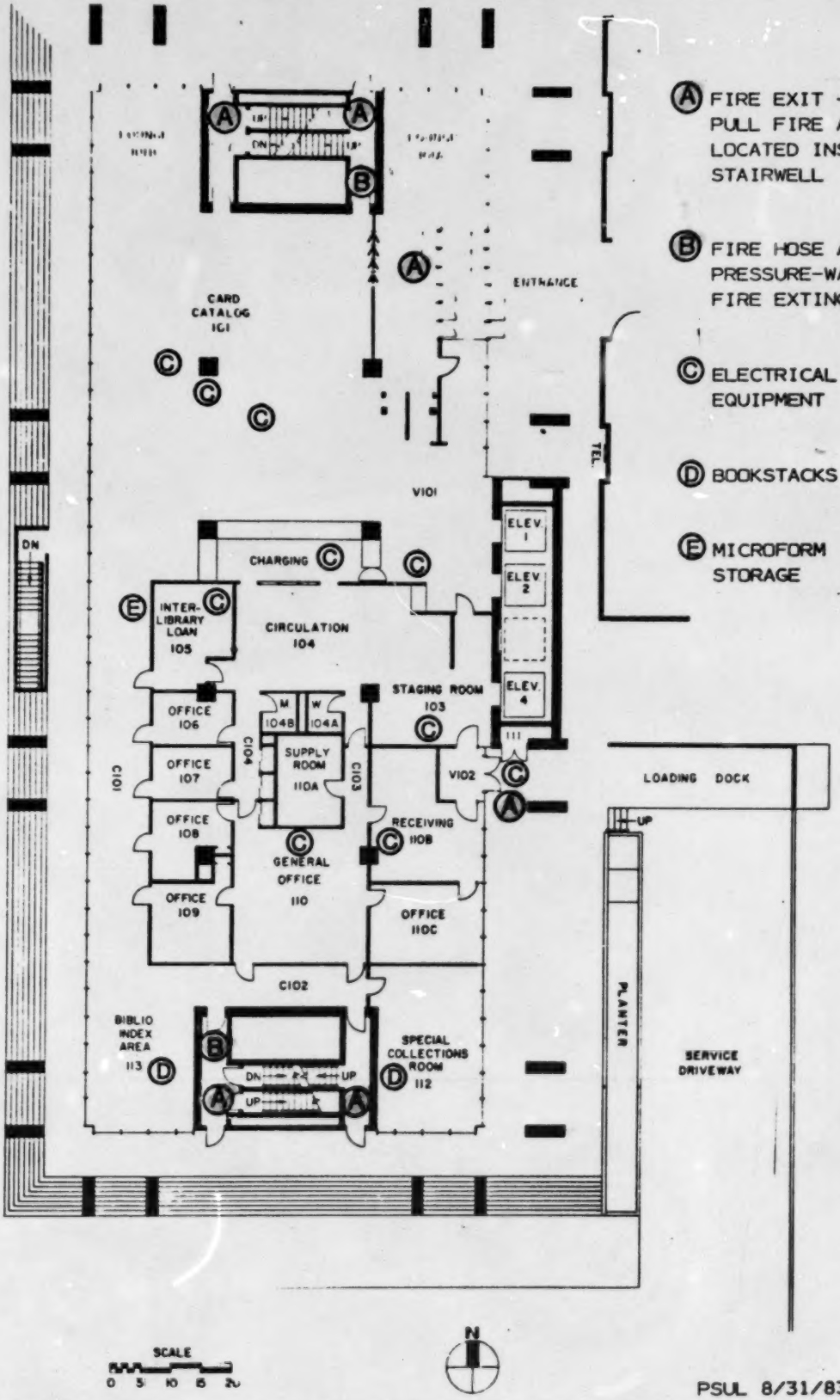
BRANFORD P. MILLAR LIBRARY

BASEMENT FLOOR PLAN 934 S.W. HARRISON

50

PSU PHYSICAL PLANT OCT. 1982

230 N 2



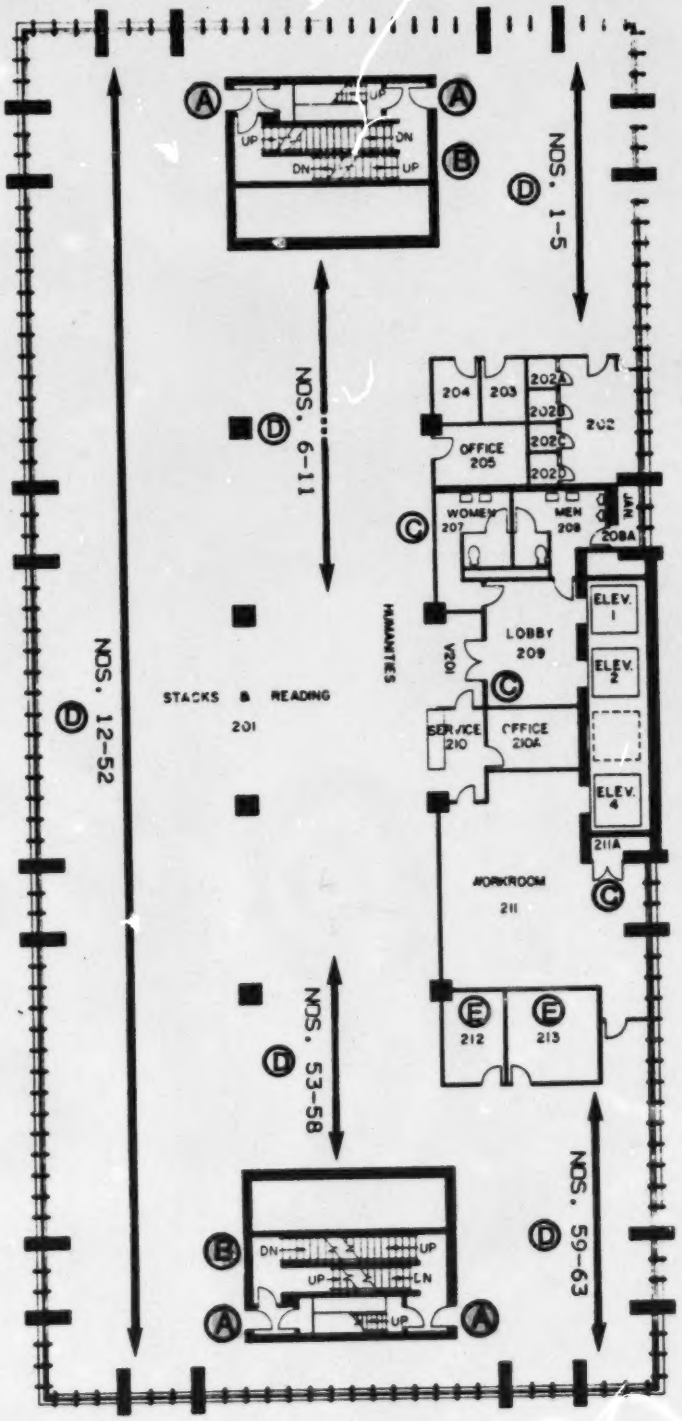
BRANFORD P. MILLAR LIBRARY

FIRST FLOOR PLAN 934 S.W. HARRISON

51

PSU PHYSICAL PLANT OCT. 1982

230 N 3



Ⓐ FIRE EXIT - PULL FIRE ALARM LOCATED INSIDE STAIRWELL

Ⓑ FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

Ⓒ ELECTRICAL EQUIPMENT

Ⓓ BOOKSTACKS

Ⓔ MICROFORM STORAGE

SCALE 0 5 10 15 20

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PSUL 8/31/83

BRANFORD P. MILLAR LIBRARY

SECOND FLOOR PLAN 934 S.W. HARRISON

52

PSU PHYSICAL PLANT OCT. 1982

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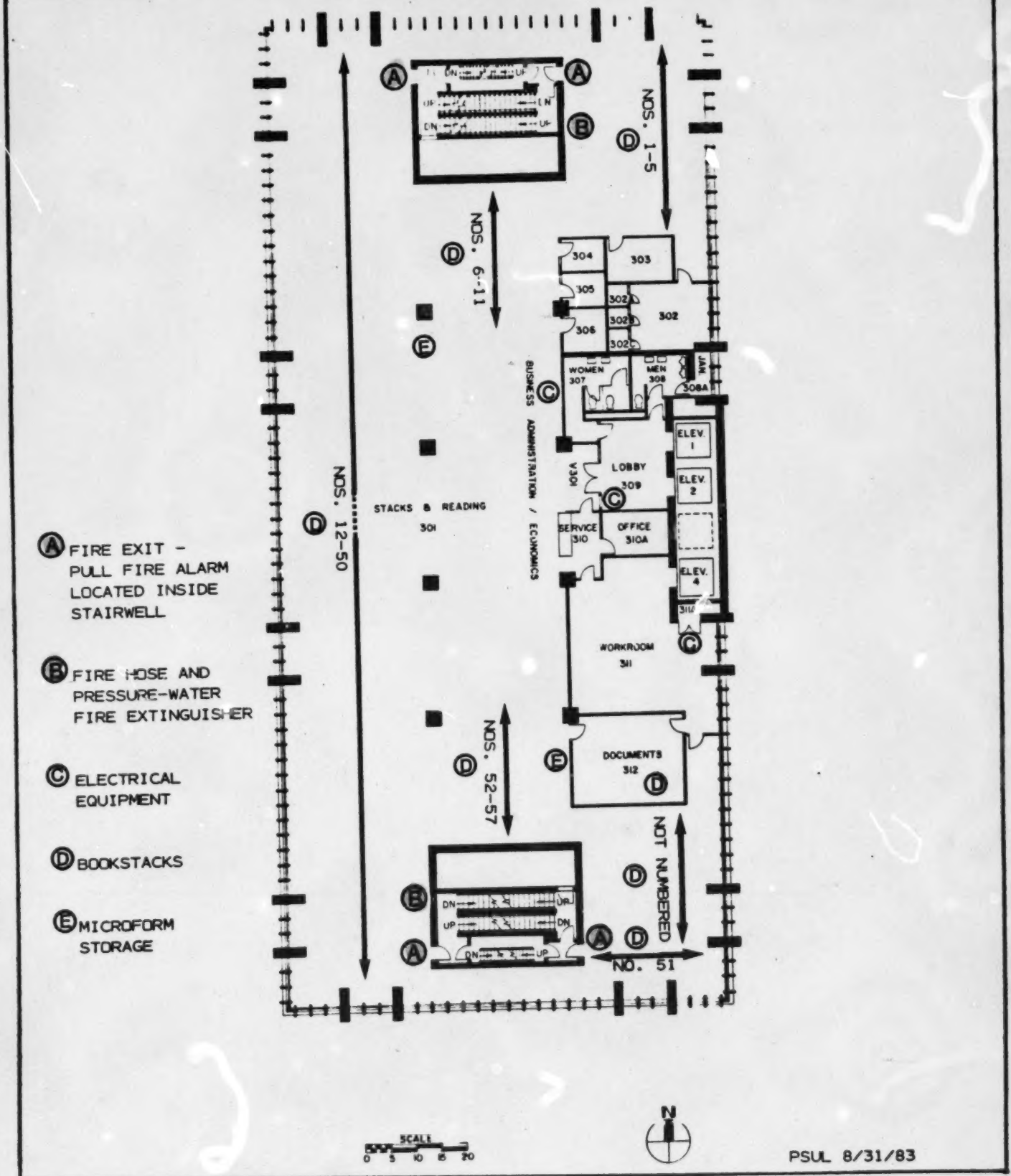

BRANFORD P. MILLAR LIBRARY

THIRD FLOOR PLAN 934 S.W. HARRISON

53

PSU PHYSICAL PLANT OCT. 1982

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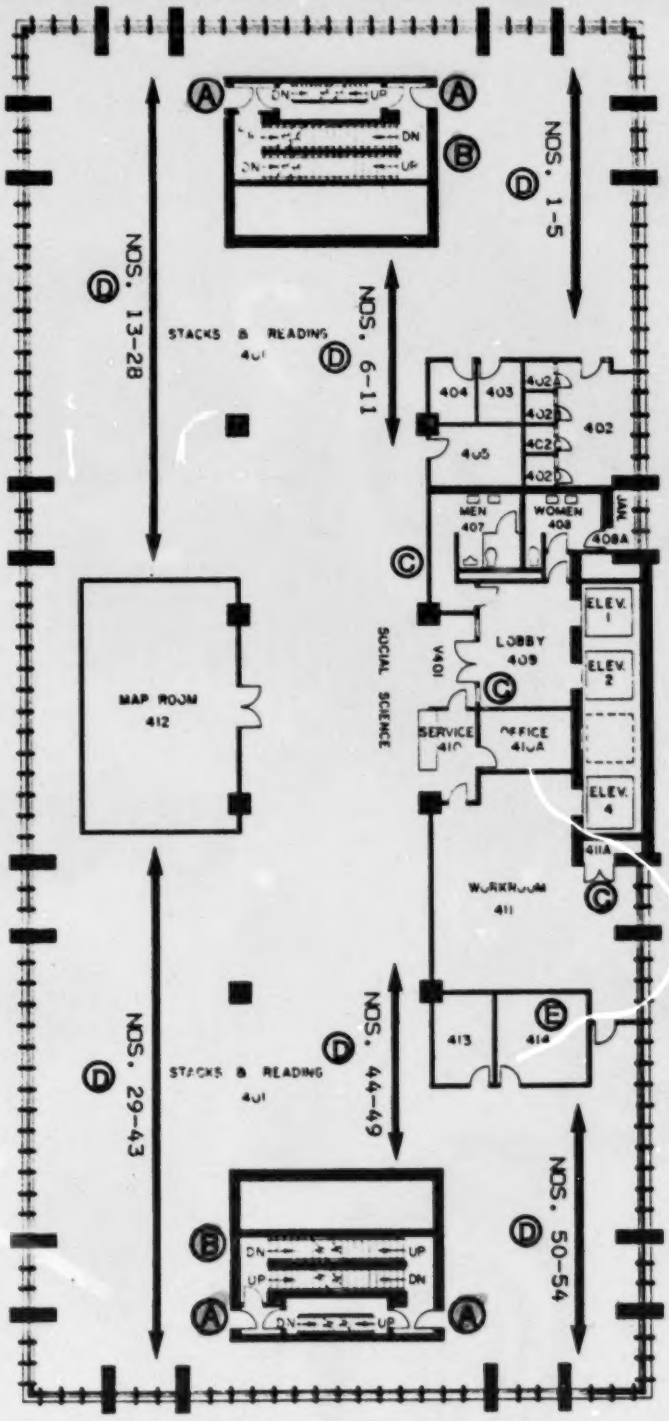

Ⓐ FIRE EXIT - PULL FIRE ALARM LOCATED INSIDE STAIRWELL

Ⓑ FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

Ⓒ ELECTRICAL EQUIPMENT

Ⓓ BOOKSTACKS

Ⓔ MICROFORM STORAGE

SCALE

PSUL 8/31/83

BRANFORD P. MILLAR LIBRARY

FOURTH FLOOR PLAN 934 S.W. HARRISON

54

PSU PHYSICAL PLANT OCT. 1982

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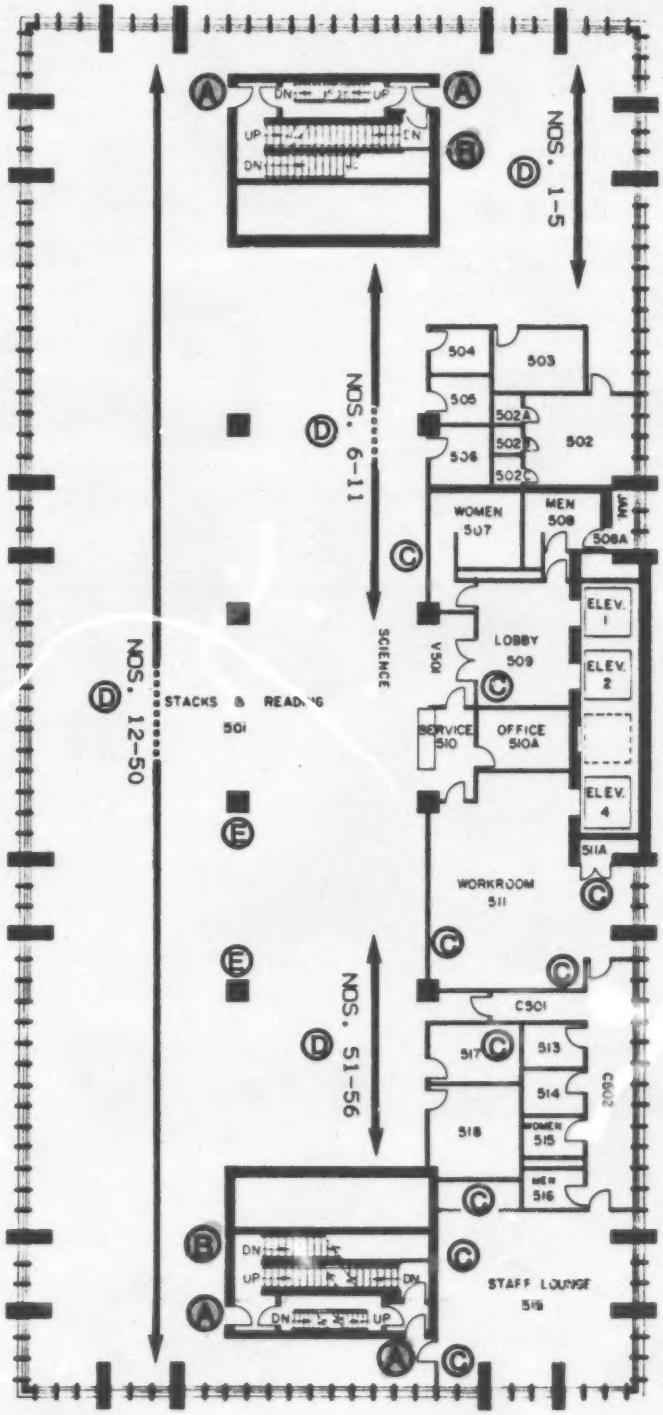

(A) FIRE EXIT — PULL FIRE ALARM LOCATED INSIDE STAIRWELL

(B) FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

(C) ELECTRICAL EQUIPMENT

(D) BOOKSTACKS

(E) MICROFORM STORAGE

SCALE 0 5 10 15 20

N

PSUL 8/31/83

BRANFORD P. MILLAR LIBRARY

FIFTH FLOOR PLAN 934 S.W. HARRISON

55

PSU PHYSICAL PLANT OCT. 1982

230 N 7

AUTOMATIC OVERHEAD SPRINKLERS LOCATED IN ALL AREAS OF FLOOR

(A) FIRE EXIT

(A) PULL FIRE ALARM

(B) FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

(C) ELECTRICAL EQUIPMENT

PSUL 8/31/83

NEUBERGER HALL
BASEMENT FLOOR
LEARNING LABORATORY

57

PSU
PHYSICAL PLANT
OCT. 1982

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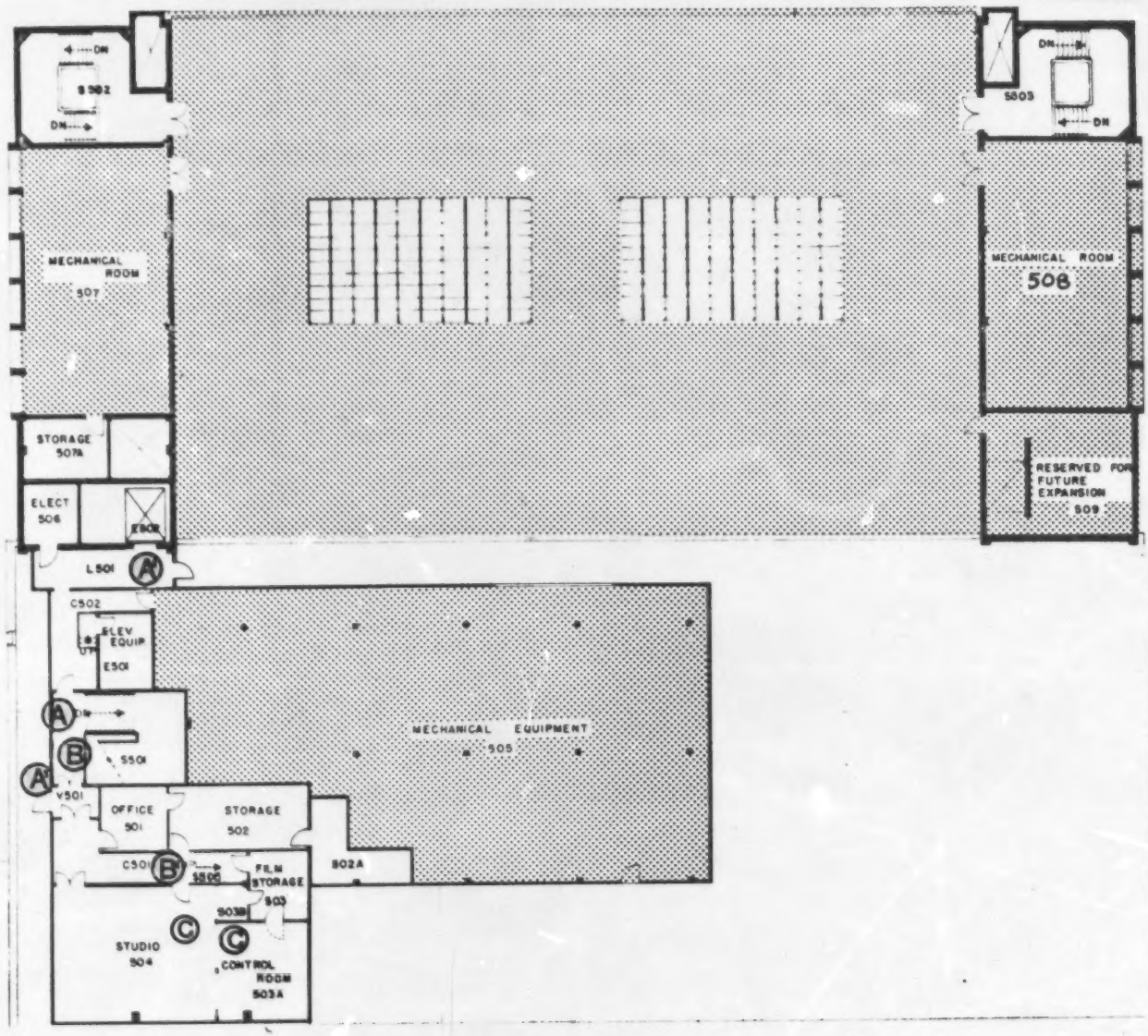

(A) FIRE EXIT - PULL FIRE ALARM LOCATED ON WALL

(A) EMERGENCY EXIT TO ROOF

(B) FIRE HOSE AND PRESSURE-WATER FIRE EXTINGUISHER

(B) CARBON DIOXIDE (CO_2) FIRE EXTINGUISHER

(C) ELECTRICAL EQUIPMENT

PSUL 8/31/83

NEUBERGER HALL
FIFTH FLOOR
TELEVISION SERVICES

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PHYSICAL PLANT
OCT. 1982

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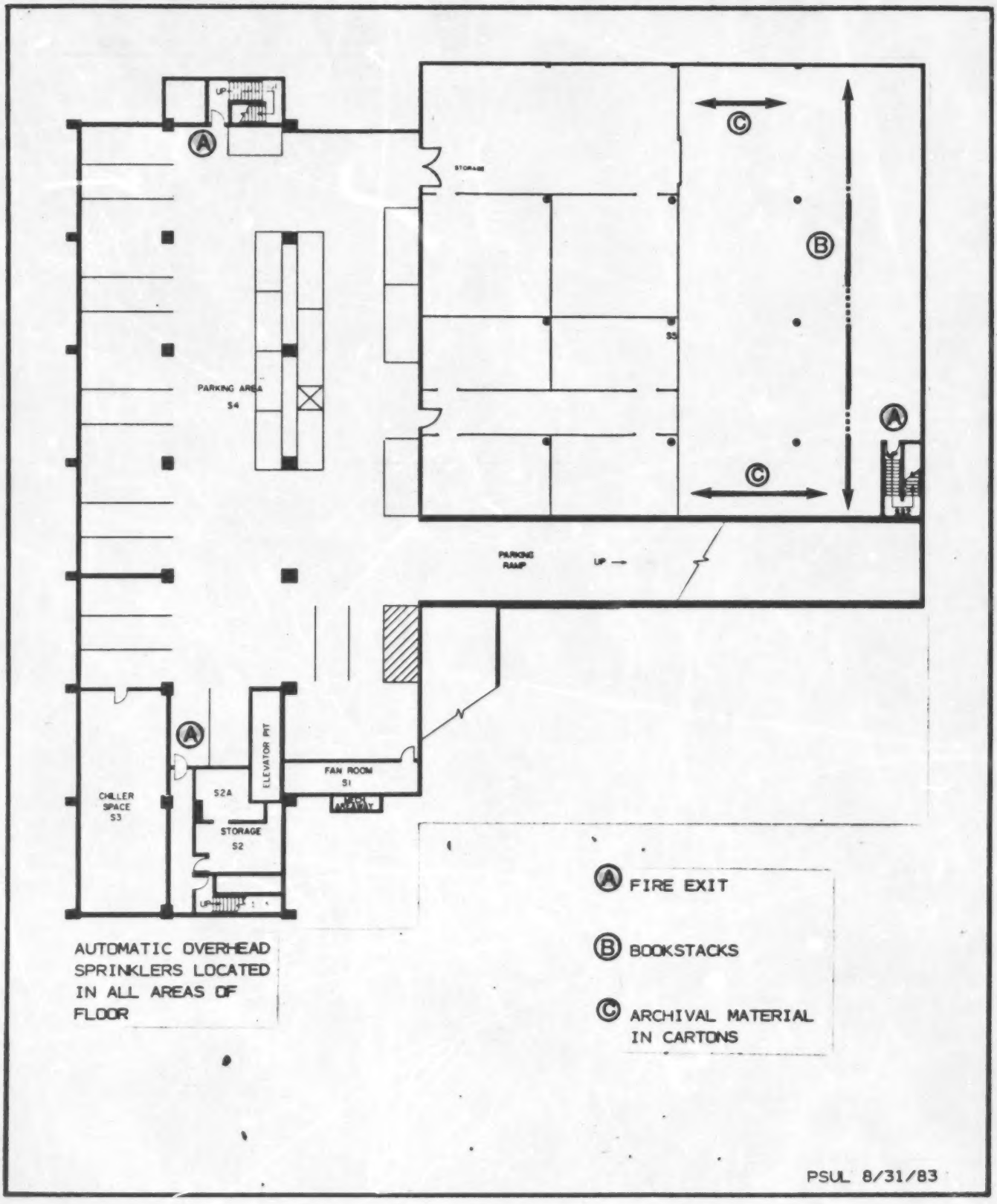
ONDINE BUILDING



ONDINE

SUB-BASEMENT FLOOR PLAN

LIBRARY STORAGE 1912 SW 6th AVE.

60

PSU
PHYSICAL PLANT
OCT. 1982

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1